

R E S E A R C H

Abstracts from the 2014 Research Poster Session at The American Massage Therapy Association Annual Convention

The Use of Massage Therapy to Relieve Chronic Low Back Pain [case report]

Laura Allen

A 53-year-old male, formerly employed as a construction worker, was referred for massage therapy for treatment of debilitating low back pain. He has pain in all areas of the back; although he sometimes experiences cervical pain and/or thoracic pain, he reports the majority of his pain is in the lumbar area. His objective for treatment is to cut down on pain medication, acetaminophen and oxycodone (Percocet), currently prescribed at 7.5 mg four times daily. The subject states he does not like to take it that frequently because it makes him feel lethargic and disoriented. The massage used was a combination of Swedish strokes (effleurage, petrissage, friction), muscle stripping, and myofascial release, techniques chosen based on the practitioner's 14 years of experience in working with clients who are in pain. A treatment plan of six weekly visits was agreed upon with re-evaluation after the sixth visit. The subject is dependent on only his disability income and is unable to commit to more frequent visits. Progress was measured using the Oswestry Low Back Pain Scale and by subjective statements on his decreased pain level and decreased need for medication, and positive effects on his activities of daily living. The massage therapy intervention was so successful that the subject switched to monthly maintenance care after four sessions instead of six as originally planned. The success of this intervention for this subject suggests that massage therapy can be an effective intervention for chronic low back pain.

A Viable Intervention for Stress Reduction in Children with Autism Spectrum Disorder [case report]

Angela Burke

Objective: To present research data representing short- and long-term stress reduction in a child with an autism spectrum disorder using zen shiatsu as a complementary and alternative treatment.

Methods: A seven-year-old male with a diagnosis of autism was given 20-min zen shiatsu sessions weekly for six consecutive weeks. Using a five-point stress scale that utilized facial expressions with

corresponding stress values, the client indicated his stress level prior to the session, as well as afterwards. Measurement comparing the levels demonstrated a decrease in stress within the 20-min period. In addition, the parent was given the PEDS QL 4.0 Young Child Questionnaire to determine the child's HRQoL (Health Related Quality of Life) prior to the six-week zen shiatsu treatment to establish a baseline. The parent completed the same questionnaire after the six weeks of sessions, to compare results.

Results: Stress levels decreased in the client after receiving zen shiatsu after all six sessions. The PEDS QL 4.0 showed higher HRQoL scores in all domains, indicating that the child's overall quality of life improved within the six weeks of receiving zen shiatsu.

Conclusions: Zen shiatsu, a form of traditional Chinese medicine, has the potential to be a viable treatment for stress reduction in children with autism spectrum disorders, thereby improving overall quality of life.

Effects of Massage Combined with Eccentric Resistance on Ankle Flexibility and Balance in Adults Aged 50–65 Years

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Background: Reduced flexibility and balance are associated with aging and increased fall risk. The purpose of this study was to determine the effects a single active muscle therapy treatment on ankle flexibility and balance in adults aged 50–65 years.

Method: Thirty-one volunteers (26 women, 5 men; 58.5 ± 4.6 yrs; 84.6 ± 22.7 kg; 166.1 ± 8.2 cm; mean \pm SD) had their balance measured with the FDA-approved Sway Balance TM mobile application (Sway Medical, Tulsa, OK) which uses the built-in tri-axial accelerometer within an iPhone or iPod Touch to measure postural sway. Participants held the device against the chest while standing with feet together, in tandem, and on one foot for 10 sec each. Sway measures from each stance were compiled into a single score with 100 being perfect (no sway). In addition, ankle dorsi and plantar flexion flexibility were measured using a digital inclinometer. Participants then underwent a 2.5 min warm-up massage to each foot, ankle, and lower leg; a 2.5 min stripping

massage (7/10 on a verbal pressure scale) on each tibialis anterior muscle while eccentrically resisting an elastic resistance band; and a similar 2.5 min massage with resistance on the gastrocnemius/soleus groups. After the 15-min massage intervention, balance and flexibility measures were repeated.

Results: Balance scores increased ($p = .024$) 4.8% (pre: 83.0 ± 15.0 ; post: 87.0 ± 11.0). All measures of flexibility improved ($p < .001$). There was a 15.4% increase in dorsiflexion, 9.6% increase in plantar flexion, and 12.5% increase in overall ankle ROM.

Conclusions: Results indicate that combining eccentric resistance with massage improves balance and ankle flexibility in adults aged 50–65 yrs immediately postintervention. Future research is needed to determine the effects in older populations, the long-term effects of this treatment, the effects of multiple treatments, and the effects on fall incidence.

Pilot Study of Massage in Veterans with Knee Osteoarthritis

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Introduction: Knee osteoarthritis (OA) is a highly common and disabling condition among Department of Veterans Affairs (VA) health care users, and effective, conservative treatment options are limited. Massage therapy holds promise for improving knee symptoms, but there are limited data to date, especially for VA health care users, who tend to have more severe OA and comorbidity than the general population.

Objective: This pilot study assessed the feasibility and efficacy of massage among VA health care users with knee OA.

Methods: Participants were 25 VA health care users with symptomatic knee OA. Participants received eight weekly 1-hr sessions of full-body Swedish massage. Measures completed at baseline and eight weeks included the Western Ontario and McMaster University Osteoarthritis Index (WOMAC), pain interference (PROMIS-PI), and global pain (visual analog scale: VAS).

Results: Participants' mean age was 57 years (12 SD), 68% were male, and 52% were African American. The mean baseline total WOMAC score was 62.9 (16.1 SD). Following the eight-week intervention, mean total WOMAC scores decreased to 45.4 (22.6 SD, $p = .001$, 95% CI [9.9, 32.2]), indicating 32% improvement. PROMIS-PI showed a 14.3% improvement ($p = .005$), and overall levels of pain (VAS) decreased by 22% ($p = .001$).

Conclusion: Results of this pilot study offer support for the efficacy and feasibility of Swedish massage for improving symptoms among VA health care users with knee OA. If results are confirmed in

a larger randomized trial, massage could be an important component of regular care for these patients.

Effectiveness of Intradialytic Massage on Muscle Cramping in Dialysis Patients

Diane Mastnardo

Introduction: Patients on dialysis can experience pain caused by muscle cramping that may result in shortened treatment times that have been linked to worse outcomes. It is estimated that up to 88% of dialysis patients experience cramping, and one study reported that 15% of patients with shortened treatment cited muscle cramping as reason. Over the past ten years, research studies using massage in cancer patients have shown decreases in pain, inflammation, and feelings of anxiety. Although there is limited evidence available about massage in dialysis patients, it may be an effective treatment modality for hemodialysis-related lower extremity cramping.

Aim: To determine the effectiveness of intradialytic massage on the frequency of cramping among hemodialysis patients prone to lower extremity cramping.

Methods: Our study protocol, approved by the Institutional Review Board at MetroHealth Medical Center included a two-month training period during which licensed massage therapists were trained in massage techniques and tested for intertherapist consistency. Thirty-two (16 intervention, 16 control) hemodialysis patients with frequent lower extremity cramps were enrolled in our study. Frequent cramping during dialysis treatments was defined as one or more episodes of lower extremity cramps, during or after dialysis over the previous two weeks. The intervention group received a 20-minute massage of the lower extremities during each treatment (three times per week) for two weeks. The control group received usual care by dialysis center staff.

Results: Patient reported cramping at home decreased by 2.5 in the intervention group, compared to 0.3 in the control group ($p = .005$) and patients reported cramping during dialysis decreased by 1.6 in the intervention group, compared to 0.9 in the control group ($p = .44$).

Conclusion: Intradialytic massage appears to be an effective way to address muscle cramping. Larger studies with longer duration should be conducted to test for similar results.

Human Patient Simulation Technology for Massage Therapy Education

Jeff Moggach, MA, RMT

Introduction: Students of massage therapy programs are required to develop a rigorous blend of

cognitive, psychomotor, and affective skills. From a pedagogical perspective, honing these skills can involve a multifaceted approach, frequently involving the adoption of learning technology.

Objective: The objective of this research was to evaluate the potential use of human patient simulation (HPS) technology to facilitate training of massage therapy students. The ability of HPS to assist in developing skills within the cognitive, psychomotor, and affective learning domains was central in this research. Relatable massage tasks investigated included the assessment and training of therapist biomechanics, communication skills, documentation, treatment planning, hygiene, vital sign assessment, draping procedures, reflection, awareness of treatment contraindications, and advising patients about self-care practices.

Method: The chosen methodology for this inquiry involved a systematic review and meta-analysis. The studies were organized and critically assessed based on the Cochrane organizational matrix which facilitated the analysis of data contained within each study. A total of 16 studies published between the years 2000 and 2012, with an average sample size of 100, met the inclusion criteria. Inclusion criteria involved studies that directly related to the use of a health-related medium or high-fidelity HPS, and related to the learning domains for massage therapy. Studies that involved a great degree of interpretation by the author and opinion were excluded from this study. An effort by the researcher to ascertain a broad spectrum of literature has been made.

Results: The literature review and subsequent synthesis has revealed a strong likelihood that HPS can effectively facilitate teaching and learning by addressing learning domains and entry-to-practice competencies. Some benefits cited included engaging critical thinking, developing biomechanics, improving clinical reasoning skills, and increasing student practitioner confidence.

Conclusion The critical evaluation of current research shows strong potential for the use of HPS in the training of massage therapists.

The Use of Craniosacral Therapy in the Treatment of Constipation [case report]

Patricia Rogers

Introduction: Functional constipation, one of the most common somatic complaints encountered by practitioners, both negatively affects quality of life and leads to increased health care costs. Craniosacral therapy (CST) is a form of bodywork that addresses micro strain patterns which accumulate to create macro dysfunction. The core physiological intent of CST is to free restrictions in the cranial membrane and the dural tube to enhance central nervous system

function. CST can elicit the release the somatic memories and residual effects of past injuries and negative experiences.

Objective: There is a paucity of data in the literature on the use of CST in the treatment of somatic complaints, such as gastrointestinal distress. This case report highlights the effect of CST on functional constipation in a trauma survivor.

Case Presentation: A 49-year-old Caucasian female with a history of childhood abuse and domestic violence presented with a chief complaint of difficulty with elimination. She was treated with CST twice per week for four weeks and once per week for four weeks. The Constipation Assessment Scale (CAS) rates the severity of constipation on a scale of 0–16, with 16 being most severe. The CAS was administered before the start of treatment and again at four and eight weeks.

Results: After eight weeks, a reduction in the severity of constipation was noted. The initial CAS score of 8 was reduced to 5 at four weeks and 2 at eight weeks.

Conclusion: CST facilitated the release of adverse mechanical strain patterns associated with somatic memories. Constipation decreased in severity. In this case study, CST was a useful tool in the treatment of constipation, underscoring the need for further evidence-based research in the use of CST to treat somatic complaints.

Reducing Forearm Contractures with Myofascial Massage [case report]

Renee Stenbjorn

Purpose: Investigate the use of myofascial massage therapy as treatment for longstanding contractures.

Introduction: Contractures develop when the soft tissues in the muscle and surrounding fascia are replaced by inelastic, fibrotic tissue, making it hard to stretch the area, and prevents normal movement. Contractures are a concern for patients with strokes, spinal cord injuries, and other debilitating diseases. Severely limited range of motion inhibits many activities of daily living. The usual care for contractures include surgery, medication, braces, and botulinum toxin. The prevalence of contractures varies widely among patient population. The prevalence of contractures among multiple sclerosis patients was found to 56%. In one study, contractures were a complication for 73% of stroke survivors at the one year mark.

Methods: Subject was 23-year-old male massage student with history of contractures of the left arm and wrist since age six, when he suffered three left arm injuries over a one-year period. A series of six myofascial massages was applied over the course of two months, focusing on eliminating fascial adhesions and restrictions. Direct fascial strokes were applied including compartment separation, fascial wringing and spreading, cross-fiber friction, muscle energy

techniques, and compression of myofascial trigger points. Approximately 80% of the strokes were applied to anterior and posterior forearm, with the balance applied to upper arm and pectoral regions.

Results: Range of motion increased from severely limited supination, starting at approximately 70°, to normal range of 182° following the last massage. Other measures focus on daily living, such as an ability to play the banjo without pain, have more fluid movements while massaging, and more successfully complete small tasks, such as using the brakes on his bike and open doorknobs. This significant result warrants a more thorough investigation of massage therapy as a treatment for contractures.

Effective Application of Massage and Bodywork for Functional Bowel Disorders (FBD): a Review of the Current Literature. A Guide for Massage and Bodywork Practitioners for Treating Patients with FBD.

Robin Streit

Objective: This paper aims to synthesize the data, provide meaningful information about massage

application for functional bowel disorders (FBDs), and estimate the overall effects of this treatment.

Methods: MEDLINE, Academic Search Premier, The Cochrane Library, Wiley Online Library, and Science Direct databases were searched to identify articles related to the topic at hand. The method and design of each study was analyzed for quality. Articles with more rigorous methods and manual protocol were chosen for review.

Results: Findings extracted from articles that measured the effect of massage therapy on outcomes of bowel function indicate that massage might be a viable treatment for managing constipation, diarrhea, and IBS as subsets of FBD. Practical application involves the clockwise abdominal massage, specifically for constipation, as this assists peristalsis. Notable successful massage techniques included specified acupressure points and reflexology techniques.

Conclusions: Massage and bodywork seem to be most effective when combined with other conventional and complementary treatments. Many of the articles in review indicated the importance of establishing a trusting patient-provider relationship in order to maximize the added benefits of the treatment.